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**REMARKS**

Applicants have received and reviewed an Office Action dated October 6, 2006, which is in the form of a restriction and species election requirement. By way of response, Applicants present the remarks below including selection of a group of claims and election of species. Claims 1-30 are currently pending. Claims 1, 4-5 and 8-9 have been canceled without prejudice. Claims 2 and 3 have been amended, and new claims 10-30 have been added. The amendments were not made in response to any rejections and do not create any estoppel. No new matter is presented. Applicants submit that the pending claims are supported by the specification.

For the reasons given below, Applicants submit that the pending claims are in condition for allowance and notification to that effect is earnestly solicited.

**Restriction Requirement**

Without acquiescing to the statements made in the Restriction Requirement, Applicants elect with traverse the claims of Group III (claims 2, 3, 4 and 6) for prosecution in the present application. Applicants traverse the Restriction Requirement, because it would not be unduly burdensome for the Examiner to search and examine all the claims. Withdrawal of the restriction requirement and examination on the merits are respectfully requested.

Applicants acknowledge that Groups I and II are related processes, that Groups I and III are related as process of making and products made, and that Groups II and III are related as product and process of use, and rejoinder may be possible.

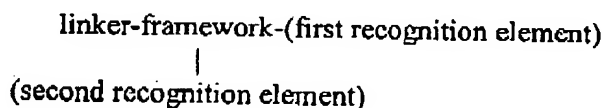
**Species Election Requirement**

Applicants acknowledge the designation of claims 1-9 as generic. The Examiner requires restriction of the pending claims to a particular and specific species of building block, a particular and specific species of support, and a particular and specific type of coupling between the building block and the support. Applicants respectfully traverse this requirement. The inventive concept herein is not dependent on the use of a particular structure or species as the building block or the support, nor is it dependent on the use of a particular type of coupling between the building block and support. Rather, the inventive concept is a method of making a

heterogenous array, by applying building blocks to a support in spots, with the building blocks being independently immobilized on the support.

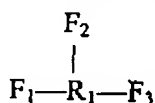
### Building Blocks

In response to the species election requirement, Applicants select as the building block the species wherein the building block is coupled to a support or lawn molecule. Applicant submits that each of pending claims reads on or can include building blocks having a structure as shown below:



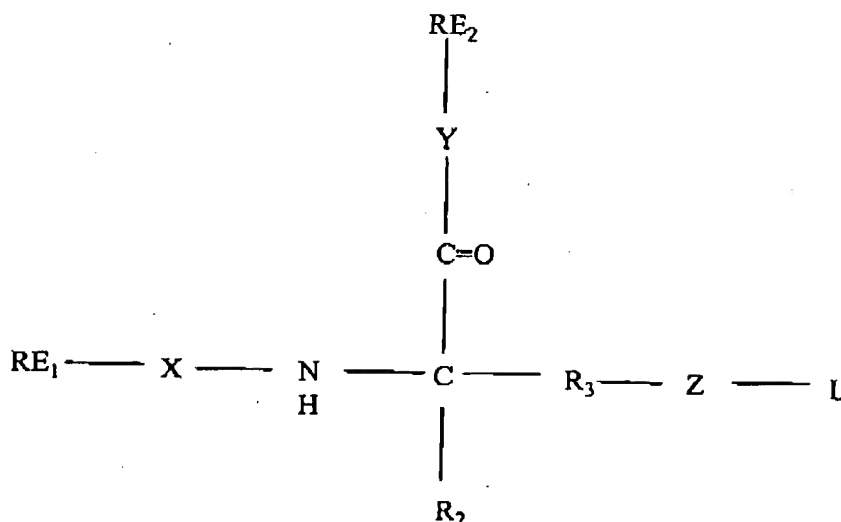
Applicants respectfully submit that each of the pending claims 2, 3, 6, 7 and 10-30 reads on or can include the above structure for the building blocks, and that all of these asserted species can be readily searched and examined together as single group, and request search and examination of compositions comprising building blocks of any structure.

If the species election requirement is maintained, Applicants respectfully request search and examination of the species of building blocks having the structure of Formula 1a:



Applicant submits that each of pending claims 2, 3, 6, 7, and 10-30 reads on or can include building blocks having the structure of Formula 1a.

If the species election requirement is deemed to require a more detailed structure of the building blocks, Applicants respectfully request search and examination of the species of building blocks having the structure of Formula 2:



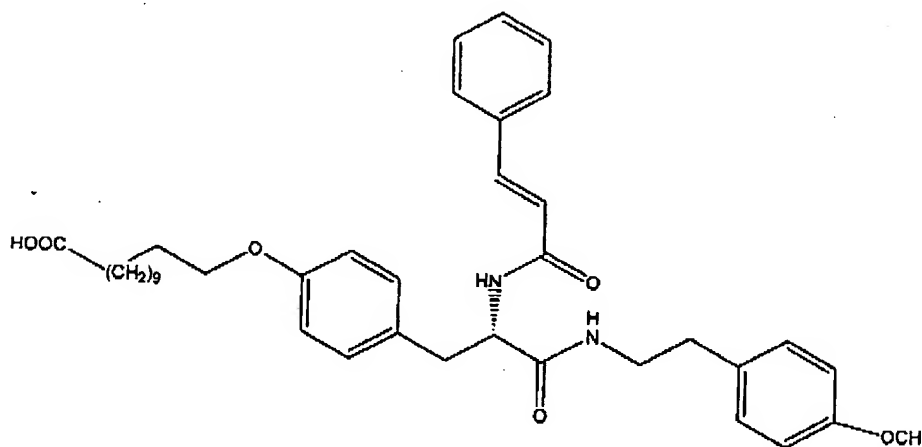
in which: RE<sub>1</sub> is recognition element 1, RE<sub>2</sub> is recognition element 2, and L is a linker. X is absent, C=O, CH<sub>2</sub>, NR, NR<sub>2</sub>, NH, NHCONH, SCONH, CH=N, or OCH<sub>2</sub>NH. Preferably X is absent or C=O. Y is absent, NH, O, CH<sub>2</sub>, or NRCO. Preferably Y is NH or O. Preferably Y is NH. Z is CH<sub>2</sub>, O, NH, S, CO, NR, NR<sub>2</sub>, NHCONH, SCONH, CH=N, or OCH<sub>2</sub>NH. Preferably Z is O. R<sub>2</sub> is H, CH<sub>3</sub>, or another group that confers chirality on the building block and has size similar to or smaller than a methyl group. R<sub>3</sub> is CH<sub>2</sub>; CH<sub>2</sub>-phenyl; CHCH<sub>3</sub>; (CH<sub>2</sub>)<sub>n</sub> with n=2-3; or cyclic alkyl with 3-8 carbons, preferably 5-6 carbons, phenyl, naphthyl. Preferably R<sub>3</sub> is CH<sub>2</sub> or CH<sub>2</sub>-phenyl.

RE<sub>1</sub> is B1, B2, B3, B4, B5, B6, B7, B8, B9, A1, A2, A3, A4, A5, A6, A7, A8, or A9. Preferably RE<sub>1</sub> is B1, B2, B3, B4, B5, B6, B7, B8, or B9. RE<sub>2</sub> is A1, A2, A3, A4, A5, A6, A7, A8, A9, B1, B2, B3, B4, B5, B6, B7, B8, or B9. Preferably RE<sub>2</sub> is A1, A2, A3, A4, A5, A6, A7, A8, or A9. In an embodiment, RE<sub>1</sub> can be B2, B4, or B6 and RE<sub>2</sub> can be A2, A4, or A6. In an embodiment, RE<sub>1</sub> can be B1, B3, B6, or B8 and RE<sub>2</sub> can be A2, A4, A5, or A9. In an embodiment, RE<sub>1</sub> can be B2, B4, B6, or B8 and RE<sub>2</sub> can be A2, A4, A6, or A8. In an embodiment, RE<sub>1</sub> can be B1, B2, B4, B6, or B8 and RE<sub>2</sub> can be A1, A2, A4, A6, or A8.

L is (CH<sub>2</sub>)<sub>n</sub>COOH, a moiety capable of hydrophobic interaction with the support. The linker L has between n=1-16, preferably n=2-8, preferably n=4-6, preferably n=3. Applicants submit that each of the pending claims 1, 4, and 5 reads on or can include building blocks having the structure of Formula 2, with the linker L as specified in Formula 2.

In the alternative, if the species election requirement is deemed to require a still more detailed structure of the building blocks, Applicants respectfully request search and examination of the species of building blocks having the structure of  $\text{TyrA}_x\text{B}_y$ , in which  $x=1-9$  and, independently,  $y=1-9$ . Applicants submit that each of the pending claims 2, 3, 6, 7, and 10-18 reads on or can include building blocks having the structure of  $\text{TyrA}_x\text{B}_y$ .

In the alternative, if the species election requirement is deemed to require a yet more detailed structure of the building block, Applicants respectfully request search and examination of the species of building blocks having the structure of  $\text{TyrA}_4\text{B}_4$ , shown below as structure 4-4 (i.e. 4-(4-[[[2-(4-methoxy-phenyl)-ethylcarbamoyl]-(3-phenyl-acrylamino)-methyl]-amino]-phenoxy)-butyric acid), modified with a  $\text{C}_{12}$  long chain fatty acid that forms a hydrophobic bond with the support.



Applicants submit that each of the pending claims 2, 3, 6, 7, and 10-30 reads on or can include building blocks having the structure of  $\text{TyrA}_4\text{B}_4$ .

If the species election requirement is maintained, Applicants elect an amino acid species with traverse, and note that the elected species is tyrosine. Applicants submit that each of the pending claims 2, 3, 6, 7, and 10-30 can include an amino acid as the framework unit of the building blocks. Applicants request search and examination of the same.

### Supports

The Examiner requires restriction of the pending claims to a particular and specific support. Applicants have traversed the species election requirement as above, but if the requirement is maintained, Applicants submit that the support includes any functional group suitable for reversibly immobilizing the building block to the support, such that a coupling occurs between a functional group on the support and a functional group on the linker of the building block.

If the species election requirement is maintained, Applicants respectfully request search and examination of the species of support having  $C_{18}$  moieties, wherein the support is coupled to a building block through a hydrophobic interaction between the  $C_{18}$  moieties on the support and long chain fatty acid moieties on the building block. Applicants submit that each of the pending claims 2, 3, 6, 7, and 10–11, 16–18 and 23–25 reads on or can include a support with  $C_{18}$  moieties. Applicants request search and examination of the same.

### Type of Coupling

The Examiner requires restriction of the pending claims to a particular and specific type of coupling between the building block and the support, i.e. coupling by covalent bond, electrostatic interaction, hydrophobic interaction, or a mixture thereof.

If the species election requirement is maintained, Applicants elect the hydrophobic interaction species, and submit that each of the pending claims 2, 3, 6, 7, and 10–11, 16–18 and 23–25 includes or reads on the elected species. Applicants request search and examination of the same.

### Using Building Blocks on Artificial Receptor

The Examiner requires restriction of the pending claims to a specific method of using the artificial receptor, i.e. by shuffling building blocks, or by exchanging building blocks. Applicants acknowledge that claims 8 and 9 are generic. Applicants submit that as the claims to methods of using the artificial receptor have been canceled, the species election requirement is moot and should be withdrawn.

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However, if the species election requirement is maintained, Applicants elect the species wherein the building blocks are shuffled, and submit that original claims 8-9 read on or can include the elected species. Applicants request search and examination of the same.

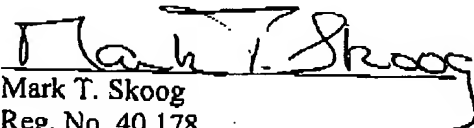
**SUMMARY**

In view of the above amendments and remarks, Applicant respectfully requests a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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